

### **Abstract**

A substrate support has a support structure and a coating on the support structure having a carbon-hydrogen network. The coating has a contact surface having a coefficient of friction of less than about 0.3 and a hardness of at least about 8 GPa. The contact surface of the coating is capable of reducing abrasion and contamination of a substrate that contacts the contact surface. In one version, the support structure has a dielectric covering an electrode. A plurality of mesas on the dielectric have a coating with the contact surface thereon.